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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/204,585	12/03/1998	MARC TREMBLAY	SP-3288-US	5684

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EXAMINER

ENG, DAVID Y

ART UNIT	PAPER NUMBER
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2155

DATE MAILED: 11/23/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

TJR

Office Action Summary

Application No.

09/204,585

Applicant(s)

TREMBLAY ET AL.

Examiner

DAVID Y. ENG

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

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The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 3-14 and 23-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yung (5,592,679) in view of Jensen (5,179,681).

Yung discloses a system having a plurality of processors and a global register which is shared by the processors. Each of the processors further includes its own local register which can be accessed by the associated processor only. Yung does not disclose whether the global register and the local register sets are partitioned from a register file. Partitioning a register file into segments is well known in the art. Jensen discloses in lines 49 et seq of column 1 that global register sets and local register sets being partitioned from a register file is well known in the art. Since both references are directed toward associating global register set and local register set to a functional unit, it would have been obvious to a person of ordinary skill in the art to implement a plurality of global register sets and local register sets by partitioning a register file as taught Jensen in the multi functional units processing system of Yung if a single large register file is available rather than a plurality of smaller registers.

As with other dependent claims, given the configuration of the processing system and the register file, it would have been obvious to a person of ordinary skill in the art to use an address space dependent on the configuration for addressing the partitioned register file such that the local register sets and the global register sets can be accessed by the functional units because otherwise it would not work.

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Claims 2 and 15-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yung and Jensen further in view of Nashimoto (6,023,757).

Yung and Jensen disclose claim combination set forth above. Although Yung's processor is of multiple functional units type, it is not clear whether his instructions are VLIW. VLIW instruction is well known in the art. Nishimoto shows in Figure 1 a processing system having a local register (line 64, col 5), in Figure 2 a processing system having a global register (line 35, col 7). Both systems use VLIW instructions. From the teaching of Nishimoto, it would have been obvious to a person of ordinary skill in the art to use VLIW instructions such that more control signals can be generated.

Claims 7, 8, 11-14, 15, 20-22, 23-29, are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 7, 20 and 27, it is not clear what is meant by "duplicate a physical register". Further, it is not clear how the register file as recited in claim 7 is related to partitioning the register file as recited in parent claim 1. In the last phrase, it is not clear what "each" and "same number" are referring to.

Scope of claims 8, 21 and 28 is not clear. Note that parent claim 1 recites that each of the functional units is associated with a local register file and a global register file (a segment). Therefore, the number of local register files and global register files are dependent on the number of functional units. Further, it is not clear what "operating equivalently" means. It is not clear how

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the different register files are being addressed.

In line 8 of claim 15, it appears that "an" should be "and".

The arithmetic in claims 11 and 12 is incorrect.

In claim 13, the local registers which are part of the storage array structure, are accessible by their associated functional units. The writes therefore can not be broadcasted as recited.

Scope of claim 14 is not clear. It is not clear what is meant by bit or word lines being formed in one metal interconnect layer.

Scope of the first step in claim 23 is not clear. Providing a processor is not part of operating a processor. The defect can be corrected by placing the description of the processor in the preamble.

Smith et al (5,367,651) and Aizlkowitz et al (5,890,000) are cited for the teaching of partitioning register file into local and global register files.



DAVID Y. ENG
PRIMARY EXAMINER